

# THE DER WEEKLY

[www.eren.doe.gov/der](http://www.eren.doe.gov/der)

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## Industry News

### TVA Will Use D-SMES Solution

On September 11, American Superconductor Corporation and GE Industrial Systems announced that they have received an order from the Tennessee Valley Authority for a Distributed Superconducting Magnetic Energy Storage (D-SMES) power grid reliability solution. American Superconductor and GE have a strategic alliance to market and sell the new D-SMES solution as a co-branded product to U.S. utilities. Superconducting storage devices store large quantities of electricity in a coil of superconducting wire with no energy losses as an electric power supplement at the transmission grid level. The D-SMES unit will be deployed in the TVA power grid in November 2001. This installation is the tenth American Superconductor D-SMES unit to be installed since July 2000. During the summer of 2000, the Wisconsin Public Service Corp. installed a unit, which has solved voltage instability problems and increased grid capacity by 15%. The photo below is of the Aurora Street substation in Antigo, WI.



*Business Wire, September 11, 2001; photo: GE*

### Active Power Ships CleanSource Product

Active Power, Inc., of Austin, TX, a developer and manufacturer of battery-free power quality solutions, announced on September 11 initial shipments of its next

Lower Manhattan copes with power outages—read Power Crunch, The DER Weekly Feature, on page 2.

generation CleanSource DC product, CleanSource2. An initial shipment to Invensys Powerware Division, through a newly strengthened agreement, will support Visa's newest data center in Denver, CO. The new CleanSource2 dramatically reduces space requirements, temperature restrictions, battery maintenance, and replacement costs while improving UPS system reliability and operational integrity. With over 1,000,000 hours of reliable field operation in a variety of customer applications, CleanSource(R) technology has become a recognized and accepted alternative to lead-acid batteries. "Typically, 10-year batteries are replaced every 5 years to ensure operational availability of Visa's data center systems and facilities equipment," said Mike Siegele, Facilities Engineer, Visa USA. "With CleanSource2, we plan to increase the life of our existing battery-strings and expand their integrity by 40%."

*Business Wire, September 11, 2001*

### SatCon Delivers SOFC Power Conversion System

SatCon Technology Corporation recently announced that it has shipped the first of three power conversion system to Siemens Westinghouse for use in Siemens' solid oxide fuel cell (SOFC). The company said the power conditioning system and SOFC will be combined with a natural gas turbine to generate electricity and heat. SatCon said it has also delivered a 250-kW MegaVerter power converter to Danbury, CT-based FuelCell Energy (FCE). The system has been integrated into FCE's test facility and is currently undergoing operational testing. FCE manufactures molten carbonate fuel cells. For more information, contact Michael Turmelle, SatCon, 617-661-0540, [www.satcon.com](http://www.satcon.com).

*(Continued on page 2)*

## Power Crunch: The DER Weekly Feature

### Con Edison Working to Restore Power to Lower Manhattan, Trying to Obtain Generators

The terrorist attack on the World Trade Center in New York City has had a significant impact on Con Edison's energy infrastructure in lower Manhattan. The fire and consequent collapse of 7 World Trade Center on Tuesday permanently damaged two substations located adjacent to the building, as well as several major electric transmission cables. A third substation located nearby has also lost service. Approximately 12,000 customers are currently without electric power, about 270 steam customers are without service, and approximately 1,400 customers are without gas service. Currently 140 Con Edison crews—approximately 300 employees—are working to restore service to the area.

Con Edison plans to use generators, along with temporary overhead lines, to restore service. The New York State Office of Emergency Management has sent the city several large generators that were originally purchased to deal with a 1998 ice storm in northern New York State, and Con Edison is currently making arrangements to obtain more generators. Workers are trying to run about 100,000 feet of new feeder cable along the curbs of many downtown streets, routing electric service around the World Trade Center area. In addition, workers are digging trenches for temporary lines across streets and then protecting them with heavy metal plates. Con Edison still has no clear estimate on how long it will take to fully restore power to the devastated area. The blacked-out area of densely packed high-rises normally consumes about as much power as the city of Syracuse.



*Sources: Con Edison Press Release, [www.conedison.com](http://www.conedison.com), September 12; New York Times, [www.nytimes.com](http://www.nytimes.com), September 13; Reuters via Yahoo Utilities News, <http://biz.yahoo.com/news/utilities.html>, September 14*

### Donaldson Touts New Fuel Cell Filter Products

Minneapolis, MN-based Donaldson Company recently introduced its FC3 line of integrated air, chemical, and noise filtration products at the Grove International Fuel Cell Symposium in London. The company said it is working with multiple fuel cell companies to "make the technology a commercially viable power source for a wide range of transportation, residential and portable applications."

"Based on our collaboration with [Los Alamos National Laboratory], we know that hydrogen fuel cells are poised to become the energy source of the future," said Donaldson FC3 business unit director Richard Canepa. "Our fuel cell-dedicated business is in place to help customers integrate quiet, clean air products."  
[www.donaldson.com](http://www.donaldson.com).

### AEP and G.A.S. Capital Form DG Company

American Electric Power (AEP) and G.A.S. Capital, Inc., have formed a joint venture company to produce and

### By the Numbers

Many home appliances continue to use electricity, or standby power, when they are switched off. Here are some examples of average watts of electricity lost.

APPLIANCE	WATTS WASTED
Security system	18.3
Cable TV box	11.6
Dishwasher	6.4
VCR	5.6
TV	4.3
Microwave oven	3.2
Answering machine	3.0
Cordless phone	2.7
Clock radio	1.7

run on liquid or gas fuels, be shipped in standard container units, and be assembled and delivered within one month. A Lycoming turbine--a model that has more than 50 million hours of operation in military and industrial operations--will power the Innovator. The Innovator has been designed to meet the proposed IEEE 1547 standard for interconnection between distributed generation equipment and electric utility distribution lines. American Electric Power is the largest generator of electricity in the U.S., and G.A.S. Capital is a subsidiary of General Aviation Services (G.A.S.).

*American Electric Power Press Release, September 13, 2001*

## DOE News

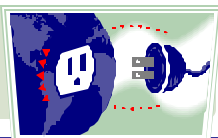
### Micro Generation Conference

Pat Hoffman delivered a presentation entitled "Federal Approach for Distributed Energy Resources" at the Troy, MI, Micro Generation to PowerParks Conference on September 10. The presentation covered the activities in the Office of Power Technologies (OPT) as well as programs within the Office of DER. An OPT booth was set up at the conference where information from the DER office was available.

### Japanese Delegates Briefed on Microturbines

Two visitors, one from the Techno Research Institute, Inc., and another from The Institute of Applied Energy were given a presentation from Debbie Haught, Office of DER. The briefing gave an overview of the Office of DER and the activities within the

## What's on the Web



### Atlanta Regional Office Website

The Atlanta Regional Office debuted its newest website addition on August 28. The DG page may be found on the website under the "What We Do" icon. It includes a DG definition, technology examples, and projects underway under FY2001 funding. [www.eren.doe.gov/aro](http://www.eren.doe.gov/aro)



microturbine program.

### Reciprocating Engine Co's Briefed on DER

Debbie Haught and Joe Mavee, DOE Chicago Operations, spoke with several reciprocating engine companies on September 12 and 13.

The briefing, with Waukesha, Cummins, and Caterpillar, in Waukesha, WI, Columbus, IN, and Lafayette, IN, respectively, was an overview of the Office of Power Technologies as well activities in the Office of DER.

## Regional Office News

### CRO Co-sponsors "MicroGeneration to PowerParks"

The Chicago Regional Office (CRO) co-sponsored the event and staffed the Office of Power Technologies DER exhibit. Secretary Spencer Abraham reviewed materials at the exhibit hall during the conference. CRO Director Peter Dreyfuss was a moderator for a general plenary session and Gary Nowakowski, CRO Power Team Lead, made a presentation, "Strategy, Issues and Successes in a Distributed Energy Future." The purpose of the conference was to identify and address the issues, policies, and practices that will effect the successful commercialization of renewable and distributed generation technologies.

### ARO Awards DG Grant

A grant for Power from Microturbines Operated on Landfill Gas, was awarded on August 21, 2001 in Atlanta, GA. Landfill gas currently being flared at Hillsborough Heights Landfill will be used to fuel one



Capstone 30kW microturbine. The University of South Florida, Tampa Electric Company (TEC), Hillsborough County (HC) the landfill operator), and Capstone Microturbines will collaborate to implement the project, which will serve as a pilot plant for potential deployment of larger generators by TEC at HC landfills.

# Calendar of Events

## SEPTEMBER 2001

16-19	NASEO Annual Meeting	Portland, ME	<a href="http://www.naseo.org/events/annual/default.htm">www.naseo.org/events/annual/default.htm</a>
17-21	5 <sup>th</sup> Biomass Confer. of the Americas	Orlando, FL	<a href="http://www.fsec.ucf.edu/bioam">www.fsec.ucf.edu/bioam</a> ; dee_scheaffer@nrel.gov
20	U.S. Advanced Ceramics Association Annual Meeting	College Park, MD	Laura Neer, USACA, 202-293-6253; <a href="http://www.advancedceramics.org">www.advancedceramics.org</a> Patricia Hoffman invited to speak.
20-21	Energy Investors Summit	San Francisco, CA	<a href="http://www.srinstitute.com/cr216">www.srinstitute.com/cr216</a>
24	Washington Policy Agenda: Government and Energy Markets	Washington, DC	<a href="http://www.xenergy.com">www.xenergy.com</a> ; 781-273-5700
24-25	Distributed Generation Conference	Denver, CO	<a href="http://www.cbinet.com">www.cbinet.com</a>
24-26	Powering the Future: New Strategies & Solutions for Deploying DP in Mktplace	Chicago, IL	<a href="http://www.intertechusa.com">www.intertechusa.com</a>
24-26	Conservation or Crisis: A NW Choice	Portland, OR	<a href="http://www.bpa.gov/Energy/N/news/crisis.shtml">www.bpa.gov/Energy/N/news/crisis.shtml</a>
25-26	Communications & Controls Workshop	Denver, CO	Eric Lightner, eric.lightner@ee.doe.gov
26	NREL's 2nd EERE Policy Forum	Washington, DC	Invitation only; Patricia Hoffman, Director, Office of DER invited to speak. See page 3 for details.
30 – Oct. 5	UPEX'01: The Photovoltaic Experience Conference & Expo	Sacramento, CA	Jjudd@ttcorp.com; hosted by Sacramento Municipal Utility District; includes distributed energy technologies workshop

## OCTOBER 2001

2-3	Midwest Electrical Conf. and Expo	Indianapolis, IN	<a href="http://www.electricleagueindiana.org/expo2001/index.htm">www.electricleagueindiana.org/expo2001/index.htm</a>
4-5	Distributed Generation Seminar	Boston, MA	<a href="http://www.aeecenter.org">www.aeecenter.org</a>
4-5	DER Conference	Philadelphia, PA	<a href="mailto:Joseph.barrett@pro.doe.gov">Joseph.barrett@pro.doe.gov</a>
7-10	APPA Telecommunications Wkshp.	Seattle, WA	<a href="http://www.appanet.org">www.appanet.org</a> ; Bethany Luna (202) 467-2993
10-11	Fuel Cell Dynamics: Reality, Not Hype	New York, NY	<a href="http://www.alliedworld.com">www.alliedworld.com</a>
14-17	National Center for Photovoltaics Program Review	Lakewood, CO	barbara_ferris@nrel.gov, 303-275-3781
16-18	IEEE Distributed Resources and Electric Power Systems Interconnection	Las Vegas, NV	<a href="http://grouper.ieee.org/groups/scc21/1547/">http://grouper.ieee.org/groups/scc21/1547/</a>
16-17	CHP Roadmap Meeting	Baltimore, MD	John Jimison, johnj@bcjlaw.com
16-17	Two-day Seminar on Materials for Corrosive Applications	Wilmington, DE	Rick Sutherlin, (541) 967-6924
16-17	Energy & Environmental Technologies Conference	Atlantic City, NJ	<a href="http://www.eetech.org">www.eetech.org</a>
22-23	Fuel Cells for Portable Devices	San Francisco, CA	<a href="http://www.f-cellsnetwork.com/NA-1660-01">www.f-cellsnetwork.com/NA-1660-01</a>
24-26	World Energy Engineering Congress and Combined Heat & Power Expo	Atlanta, GA	<a href="http://www.agcc.org">www.agcc.org</a> (CHP Expo <a href="http://www.aeecenter.org">www.aeecenter.org</a> )
24-27	Excellence in Building 2001	Orlando, FL	<a href="http://www.eeba.org/conference">www.eeba.org/conference</a>
28-Nov. 2	2001 IEEE/PES Transmission and Distribution Conference and Expo	Atlanta, GA	<a href="http://www.ieeet-d.org">www.ieeet-d.org</a>
29-30	Reliability-Focused Energy Efficiency Conference: Lessons Learned in 2001	Berkeley, CA	<a href="http://www.aceee.org">www.aceee.org</a>

# Calendar of Events

## NOVEMBER 2001

1-2	3rd Annual International Symposium on Distributed Energy Resources	San Diego, CA	<a href="http://www.cader.org">www.cader.org</a> ; Robert Dixon, Deputy Assistant Secretary, Office of Power Technologies invited to speak
1-4	World Congress for Hydrogen Economy	Denver, CO	<a href="http://www.hydrogennow.org">www.hydrogennow.org</a>
6	NAESCO DG Conference	Miami, FL	<a href="http://www.naesco.org/conference.htm">www.naesco.org/conference.htm</a>
6-7	Empire Energy & Environment Expo	Albany, NY	<a href="mailto:info@eba-nys.org">info@eba-nys.org</a>
7	Ohio Fuel Cell Technology Symposium	Cleveland, OH	<a href="http://www.cesnet.org">www.cesnet.org</a>
7-9	NAESCO 18th Annual Conference	Miami, FL	<a href="http://www.naesco.org/conference.htm">www.naesco.org/conference.htm</a>
8-9	DG Strategies & On-site Power Applications for Fuel Cells	Atlanta, GA	<a href="http://www.dist-gen.com">www.dist-gen.com</a>
11-14	113th NARUC Annual Convention	Philadelphia, PA	<a href="http://www.naruc.org">www.naruc.org</a>
12-14	Fuel Cells for Stationary, Automotive and Portable Apps.	Fort Lauderdale, FL	Florida Educational Seminars, (561) 367-0193
27-28	Business for Fuel Cells for Stationary Applications	Brussels, Belgium	<a href="http://www.eyeforfuelcells.com">www.eyeforfuelcells.com</a>
28-29	Business Energy Solutions Expo	Orlando, FL	<a href="http://www.aeecenter.org">www.aeecenter.org</a> ; <a href="http://www.tecoenergy.com">www.tecoenergy.com</a>
28-30	The Power to Choose: Creating an Expanded DER Industry	Washington, DC	<a href="mailto:cs@energeticsinc.com">cs@energeticsinc.com</a>

## DECEMBER 2001

3-4	4th Business Case for Opportunity and Investment in Fuel Cells	Miami, FL	<a href="http://www.cbinet.com">www.cbinet.com</a>
5-7	4th Annual Interactive Energy Conf.	Houston, TX	<a href="http://www.interactiveenergy.com/2001">www.interactiveenergy.com/2001</a>
11-13	Power-Gen International	Las Vegas, NV	<a href="http://www.pennwellevents.com">www.pennwellevents.com</a>

## JANUARY 2002

14-15	Material Technologies for Fuel Cells and Power Electronics	Cocoa Beach, FL	<a href="http://www.ceramics.org/meetings/ECD2002/expo.asp">www.ceramics.org/meetings/ECD2002/expo.asp</a>
28-Feb.1	Distributed Power Program Annual Review Meeting	Arlington, VA	<a href="mailto:kimberly_taylor@nrel.gov">kimberly_taylor@nrel.gov</a>
29-Feb.1	Reducing Your Energy Costs Conference and Exhibit	New Orleans, LA	Stuart Steller, 781-939-2411, <a href="mailto:s.steller@cbinet.com">s.steller@cbinet.com</a>

## FEBRUARY 2002

27-Mar 1	DistribuTECH	Miami Beach, FL	<a href="http://www.pennwellevents.com">www.pennwellevents.com</a>
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## MARCH 2002

17-21	EPRI's 7th Distributed Resources Conference and Expo	Dallas, TX	<a href="mailto:lgoldie@epri.com">lgoldie@epri.com</a>
19-21	Electric Power 2002	St. Louis, MO	<a href="http://www.electricpowerexpo.com">www.electricpowerexpo.com</a>